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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,677	03/04/2005	Henrik Junicke	12810-00033-US	3142

30678 7590 10/10/2007  
CONNOLLY BOVE LODGE & HUTZ LLP  
1875 EYE STREET, N.W.  
SUITE 1100  
WASHINGTON, DC 20036

EXAMINER
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HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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10/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/526,677

Applicant(s)

JUNICKE ET AL.

Examiner

Robert A. Hopkins

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-11, and 14-18 is/are rejected.
- 7) ☒ Claim(s) 3-5, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3-4-05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites "An adsorption composition copper(I) oxide and/or copper(II) oxide ...". Examiner respectfully submits that the scope of the claim is unclear because a transition word or phrase is absent between "composition" and "copper(I) oxide and/or copper(II) oxide". Correction is requested.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,7,8,9,10,14-18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hu et al(5990040).

Hu et al teaches a process for removing carbon monoxide from carbon monoxide comprising substance streams(synthesis gas) by adsorption to an adsorption composition, which comprises bringing the carbon monoxide comprising substance stream into contact with a copper, zinc, and zirconium comprising adsorption composition. Hu et al further teaches wherein an adsorption composition is used which comprises copper in an amount equivalent to from 30 to 99.8 percent by weight of

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CuO(column 4 lines 46-48), zinc in an amount equivalent to from 0.1 to 69.9% by weight of ZnO(column 4 line 48), and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO<sub>2</sub>(column 4 lines 48-50), in each case based on the total amount of the adsorption composition. Hu et al further teaches wherein a copper I oxide and/or copper II oxide comprising adsorption composition is used and part of the carbon monoxide is removed by chemical reaction with the copper oxides. Hu et al further teaches wherein the adsorption composition is activated by treatment with a reducing agent, and wherein the adsorption composition is activated by being contacted with a hydrogen comprising gas(column 7 line 5). Hu et al further teaches wherein the adsorption composition is regenerated after reaching its adsorption capacity by heating it to a temperature in the range from 50 to 400 degrees C and/or passing a gas through a bed of the adsorption composition to be regenerated.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al(5990040) taken together with Lutchko et al(3545915).

Hu et al teaches all of the limitations of claim 6 but is silent as to wherein carbon monoxide is removed from a carbon monoxide and oxygen comprising substance stream and part of the carbon monoxide is removed by catalytic reaction of the

adsorption composition with oxygen. Lutchko et al teaches passing carbon monoxide through a copper impregnated support, wherein part of the carbon monoxide is removed by catalytic reaction of the adsorption with oxygen(column 1 lines 53-64). It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide part of the carbon monoxide of Hu et al to be removed by catalytic reaction of the adsorption with oxygen in order to provide for a second process for conversion of carbon monoxide to carbon dioxide.

***Allowable Subject Matter***

Claims 3,4,5,12,13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 recites "wherein an adsorption composition is used which essentially consists of copper in an amount equivalent to from 30-99.8% by weight of CuO, zinc in an amount equivalent to from 0.1 to 69.9% by weight of ZnO and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO<sub>2</sub>, in each case based on the total amount of the adsorption composition, the proportions of the individual components totaling 100% by weight". Hu et al teaches the above three components, but also teaches 5-40 % of an aluminum oxide, as noted in column 5 lines 1-19 and column 9 table 1. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an adsorption composition which includes only the claimed components, the proportions of the individual components totaling 100% by weight because Hu does not suggest such a modification.

Claims 4, 12, 13 recite "wherein an adsorption composition is used in which copper is present in part in metallic form and in part in the form of copper(I) oxide and/or copper(II) oxide". Hu et al teaches an adsorption composition wherein the copper is only present only in copper oxide form. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an adsorption composition in which copper is present in part in metallic form and in part in the form of copper(I) oxide and/or copper(II) oxide because Hu et al does not suggest such a modification.

Claim 5 recites "wherein carbon monoxide is removed from a liquid propylene stream". Hu et al teaches removal of carbon monoxide from a syn gas during a gas shift reaction. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide carbon monoxide is removed from a liquid propylene stream using the claims adsorption composition because Hu et al does not suggest such a modification.

Claim 11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 11 uses the same "essentially consists of" limitations as claim 3, therefore for the same reasons as claim 3, claim 11 would be allowable upon overcoming the 112 second paragraph rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-

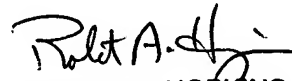
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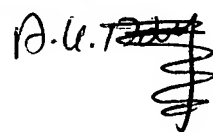
1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rah  
October 3, 2007

  
ROBERT A. HOPKINS  
PRIMARY EXAMINER

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